REMARKS

The application has been amended to place the application in condition for allowance at the time of the next Official Action.

Claims 1-4 and 6-20 are pending in the application.

Claim 1 is amended to address the 35 USC §112, second paragraph rejections noted in the Official Action.

As to the definition of "X" and "Y", applicants believe these values are sufficiently defined. Specifically, claim 1 provides that the current density is defined to be X A/m^2. Accordingly, X is the current density and is represented in $amperes/meter^2$. $Amperes/meter^2$ is an acceptable unit of measure for current density defining the current flow through a conductor to the cross sectional area of that conductor. Y is defined as the average velocity of the electrolyte passing through the space between electrodes and the units for Y are m/h (meters/hour), which is an accepted unit of distance over time to define velocity. Accordingly, both X and Y are believed clearly defined.

Claims 1-4 and 6-20 are rejected as unpatentable over KITAMURA et al. 4,061,559 in view of COOK et al. 4,282,082. This rejection is respectfully traversed.

As set forth in the Official Action, KITAMURA et al. do not show discharging the slime and electrolyte such that the

electrolyte free of slime is returned to the cell. The Official Action also indicates that KITAMURA et al. do not teach the recited velocities or a titanium cathode. COOK et al. is offered in an attempt to overcome these shortcomings.

However, when COOK et al. is returning electrolyte free of slime back to the tank, such electrolyte was obtained via overflow opening 76 and line 92. Specifically, column 6, lines 43-61 of COOK et al. disclose that there is a continuous overflow of slurry-containing electrolyte and leached copper-bearing solids (slime) that are directed via overflow opening 76 and line 92 to a thickener 94 for separation. The electrolyte is then returned to the tank 10 via line 96 to be mixed with fresh copper-bearing solids.

Column 4, lines 10-20 of COOK et al. teach recirculating slurry from the bottom outlet opening 52 through recirculation pump 54 and back into the tank through opening 60. Accordingly, when the slurry of COOK et al. is being discharged from the bottom of the tank, such slurry contains slime and still contains slime when it is reintroduced into the inlet opening 60 in order to maintain solid suspensions and slurry agitation within the tank 10, wherein the slime is a solid suspension in the electrolyte. Only the overflow electrolyte is separated from the slime and returned to the tank without any slime. Therefore, COOK et al. do not meet the limitation of the electrolyte

continuously discharged from the bottom of the cell along with slime and the slime being removed from the electrolyte discharged from the electrolytic cell and the electrolyte free of any slime is recirculated in the cell as recited in claim 1. As set forth above, KITAMURA et al. do not teach or suggest this feature.

In addition, column 4, lines 33-37 of COOK et al. teach that when the slurry is reintroduced into the tank through inlet opening 60, adjustable baffles 64 are mounted within the tank to create a generally even, downwardly directed velocity profile of electrolyte slurry across the width of the tank 10. Preferably, the velocity is about 45 ft/min. The recited velocity value for "Y" is between 600 and 80 m/h. Such values translate into about 32.8 ft/min and 4.4 ft/min. Therefore, the 45 ft/min velocity of COOK et al. is outside the recited range.

Further, the baffles 64 of COOK et al. are mounted within the tank 10 to create a generally even, downwardly directed velocity profile of electrolyte slurry across the width of the tank 10.

COOK et al. do not teach or suggest that the electrolyzation is carried out under conditions, which satisfy the following inequalities:

$X > 350$; $600 \geq Y \geq 80$; and $Y \geq 250 \times \{(X - 350)/350\}^{1/2}$

wherein the current density is defined to be X A/m^2 and the average velocity of the electrolyte passing through the space

between the electrodes is defined as Y m/h, whereby the electrolyte is passed through the space between the electrodes at an average velocity of the electrolyte sufficient for allowing the electrolyte to flow on the whole surface of the cathode downward or in the direction opposite to that of the upward stream of the electrolyte generated on the cathode surface when the electrolysis is initiated while the electrolyte is in the stationary state as recited in claim 1.

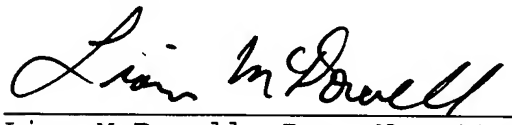
The above-noted features are missing from each of the references, are absent from the combination, and thus are not obvious to one having ordinary skill in the art.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. §1.16 or under 37 C.F.R.§1.17.

Respectfully submitted,

YOUNG & THOMPSON



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